# COMMONWEALTH of VIRGINIA

*DEPARTMENT OF ENVIRONMENTAL QUALITY*
PIEDMONT REGIONAL OFFICE
4949A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 Fax (804) 527-5106
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Michael P. Murphy
Regional Director


**COMMONWEALTH OF VIRGINIA**
**Department of Environmental Quality**
**Piedmont Regional Office**

## STATEMENT OF LEGAL AND FACTUAL BASIS

James River Genco
912 East Randolph Road, Hopewell, Virginia
Permit No. PRO-50950

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, James River Genco, LLC has applied for a Title V Operating Permit for its James River Genco facility. The Department has reviewed the renewal application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: 1/6/15
Sherry Tostenson
(804) 527-5097

Air Permit Manager: _____ Date: 1/6/2015
James E. Kyle, P.E.

Deputy Director: _____ Date: 1/7/2015
Kyle Ivar Winter, P.E.

## FACILITY INFORMATION

Permittee/Facility
James River Genco, L.L.C./James River Genco
912 East Randolph Road
Hopewell, Virginia

County-Plant Identification Number: 51-670-0055

## SOURCE DESCRIPTION

NAICS 221112 and SIC Code: 4911 - Electric power generation, transmission, or distribution.

James River Genco is a cogeneration plant that combusts fuel in six stoker fired boilers to produce steam. A portion of the steam is sold to an industrial host for use in the manufacturing process. The remainder of the steam is used to drive the turbine-generators to provide electricity for sale. Each of the boiler units 1 and 2 have three boilers connected to one turbine generator. Unit 1's three boilers are exhausted through a common stack and unit 2's three boilers are exhausted through another common stack. Each of the six boilers is rated at approximately 200 MMBtu per hour (175,000 lbs of steam/hr). The fuel burned in the boilers is coal and natural gas. The boilers are controlled by pulse jet fabric filter baghouses and dry flue gas desulfurization (except for when solely burning natural gas).

In addition to the stoker boilers, other emission sources on the plant site include the coal handling operations and the ash handling operations. Rail cars deliver coal to the site and unload into underground hoppers. The hoppers deliver the coal onto a conveyor belt that transports the coal to the storage yard. Coal is stacked onto a pile over another underground hopper. From this hopper, coal is fed onto a conveyor belt for delivery into the plant where it is stored in a bunker for each boiler. Dust emissions from the coal handling operations are controlled by use of a wet spray on the unloading hoppers when dusty conditions exist. The fly ash and recycled fly ash from combustion of the fuel is collected by a boiler baghouse and pneumatically conveyed to one of the two fly ash/recycled fly ash storage silos for each of the boiler units. However, there is only one storage silo to collect bottom ash from both of the boiler units. The ash produced from the fuel combustion and collected by the boiler baghouse is collected and pneumatically conveyed to a storage silo. The ash is unloaded from the silos into trucks using a wet mixer pugmill for dust suppression.

The facility is a major source for Title V of $SO_2$, $NO_X$, CO, and GHGs. This source is located in an attainment area for all pollutants along with being located in a VOC and Nitrogen Oxides Emissions Control Area and the Richmond Ozone Maintenance Area. This source is a major source for PSD. The facility was originally permitted under a PSD Permit issued on June 12, 1986, and most recently amended on December 16, 2014. The facility also is currently permitted under a February 28, 2007 minor NSR permit and an opt-in acid rain permit of which will be renewed in this permit. The six stoker fired boilers are currently subject to the Clean Air Interstate Rule (CAIR).

## COMPLIANCE STATUS

A full compliance evaluation (FCE) of this facility, including a site visit, has been conducted. The last full compliance evaluation (FCE) was conducted on March 27, 2014 and the facility was found to be in compliance.

## EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

| Emission Unit ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Stack ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| **Fuel Burning Equipment** | | | | | | | |
| 1A | Foster-Wheeler stoker boiler (Construction date: 1986) | 175,000 lbs steam/hr 200 MMBtu/hr | Fabric filter baghouse: Wheelabrator-Frye MDL 168 Series 6P with a control efficiency of 99.1% and a Flue Gas Desulfurization (FGD) system[1]. | 1A | 001 | PM $SO_2$ | 12/16/14 |
| 1B | Foster-Wheeler stoker boiler (Construction date: 1986) | 175,000 lbs steam/hr 200 MMBtu/hr | Fabric filter baghouse: Wheelabrator-Frye MDL 168 Series 6P with a control efficiency of 99.1% and a Flue Gas Desulfurization (FGD) system[1]. | 1B | | | 12/16/14 |
| 1C | Foster-Wheeler stoker boiler (Construction date: 1986) | 175,000 lbs steam/hr 200 MMBtu/hr | Fabric filter baghouse: Wheelabrator-Frye MDL 168 Series 6P with a control efficiency of 99.1% and a Flue Gas Desulfurization (FGD) system[1]. | 1C | | | 12/16/14 |
| 2A | Foster-Wheeler stoker boiler (Construction date: 1986) | 175,000 lbs steam/hr 200 MMBtu/hr | Fabric filter baghouse: Wheelabrator-Frye MDL 168 Series 6P with a control efficiency of 99.1% and a Flue Gas Desulfurization (FGD) system. | 2A | 002 | PM $SO_2$ | 12/16/14 |
| 2B | Foster-Wheeler stoker boiler/ (Construction date: 1986) | 175,000 lbs steam/hr 200 MMBtu/hr | Fabric filter baghouse: Wheelabrator-Frye MDL 168 Series 6P with a control efficiency of 99.1% and a Flue Gas Desulfurization (FGD) system. | 2B | | | 12/16/14 |
| 2C | Foster-Wheeler stoker boiler (Construction date: 1986) | 175,000 lbs steam/hr 200 MMBtu/hr | Fabric filter baghouse: Wheelabrator-Frye MDL 168 Series 6P with a control efficiency of 99.1% and a Flue Gas Desulfurization (FGD) system. | 2C | | | 12/16/14 |
| **Coal Handling** | | | | | | | |
| FS-3 | Coal unloading and stock out: unloading hopper, covered conveyor, stock out tube | 600 tons of coal/hour | Water spray/wet dust suppression | 3 | Fugitive | PM | 12/16/14 |
| FS-4 | Coal screening/classifier/crusher system | 300 tons of coal/hour | Water spray/wet dust suppression at transfer points | 4A | Fugitive | PM | 2/28/07 |

| Emission Unit ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Stack ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| FS-4 | Coal screening/classifier/crusher system | 300 tons of coal/hour | Bagfilter on classifier/screener and crusher | 4B | Captured particulates are reintroduced into the fuel stream. | PM | 2/28/07 |
| 1-2A | Boiler 1A coal storage bunker | 270 tons of coal/hour | Fabric filter baghouse: Dalamatic DLMV15 with a control efficiency of 99.1% | 1-2A | 1-2A | PM | 12/16/14 |
| 1-2B | Boiler 1B coal storage bunker | 270 tons of coal/hour | Fabric filter baghouse: Dalamatic DLMV15 with a control efficiency of 99.1% | 1-2B | 1-2B | PM | 12/16/14 |
| 1-2C | Boiler 1C coal storage bunker | 270 tons of coal/hour | Fabric filter baghouse: Dalamatic DLMV15 with a control efficiency of 99.1% | 1-2C | 1-2C | PM | 12/16/14 |
| 2-2A | Boiler 2A coal storage bunker | 270 tons of coal/hour | Fabric filter baghouse: Dalamatic DLMV15 with a control efficiency of 99.1% | 2-2A | 2-2A | PM | 12/16/14 |
| 2-2B | Boiler 2B coal storage bunker | 270 tons of coal/hour | Fabric filter baghouse: Dalamatic DLMV15 with a control efficiency of 99.1% | 2-2B | 2-2B | PM | 12/16/14 |
| 2-2C | Boiler 2C coal storage bunker | 270 tons of coal/hour | Fabric filter baghouse: Dalamatic DLMV15 with a control efficiency of 99.1% | 2-2C | 2-2C | PM | 12/16/14 |
| **Unit 1 Ash System (total system rating of 4 tons of ash/hour)** | | | | | | | |
| 1-3 | Fly Ash/Recycled Fly Ash Storage Silo | | Bagfilter: A-S-H Bagvent with a control efficiency of 99% | 1-3A | 1-3A | PM | 12/16/14 |
| 1-3 | Fly Ash/Recycled Fly Ash Vacuum System | | Filter: In line cartridge filter with a control efficiency of 99% | 1-3B | 1-3B | PM | 12/16/14 |
| | | | Cyclone: A-S-H Co. T-42 primary collector with a control efficiency of 85% | 1-3E | | | |
| | | | Bag filter: A-S-H Co. T-42 w/Micropulsair Mdl 42-8-18" Hg with a control efficiency of 99% | 1-3F | | | |
| 1-3 | Fly Ash/Recycled Fly Ash Vacuum System | | Filter: In line cartridge filter with a control efficiency of 99% | 1-3C | 1-3C | PM | 12/16/14 |

| Emission Unit ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Stack ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| 1-3 | Fly Ash/Recycled Fly Ash Vacuum System | | Cyclone: A-S-H Co. T-42 primary collector with a control efficiency of 85% | 1-3E | 1-3C | PM | 12/16/14 |
| | | | Bag filter: A-S-H Co. T-42 w/Micropulsair Mdl 42-8-18" Hg with a control efficiency of 99% | 1-3F | | | |
| 1-3 | Wet Unloader from Fly Ash/Recycled Fly Ash Storage Silo | | Pugmill: A-S-H C-40 pugmill with a control efficiency of 85% | 1-3D | 1-3D | PM | 12/16/14 |
| | Recycled Fly Ash Truck Unloading | | Water spray System | - | Fugitive | PM | 2/28/07 |
| 1-4 | Boiler Ash* System (for units 1 & 2) – Vacuum System and Bottom Ash Collection Silo with Unloaders (* Bottom ash) | | Bin Vent Filter | 1-4 | 1-4 | PM | 2/28/07 |
| | | | Primary Collector (Unit 1) | 1-4A | 1-4A or B | | |
| | | | Micropulsaire Model 42-8-18" Hg Bagfilter (Unit 1) | 1-4B | | | |
| | | | In-line Cartridge Filter (Unit 1 pumps) | 1-4C | | | |
| **Unit 2 Ash System (total system rating of 4 tons of ash/hour)** | | | | | | | |
| 2-3 | Fly Ash/Recycled Fly Ash Storage Silo | | Bagfilter: A-S-H Bagvent with a control efficiency of 99% | 2-3A | 2-3A | PM | 12/16/14 |
| 2-3 | Fly Ash/Recycled Fly Ash Vacuum System | | Filter: In line cartridge filter with a control efficiency of 99% | 2-3B | 2-3B | PM | 12/16/14 |
| | | | Cyclone: A-S-H Co. T-42 primary collector with a control efficiency of 85% | 2-3E | | | |
| | | | Bag filter: A-S-H Co. T-42 w/Micropulsair Mdl 42-8-18" Hg with a control efficiency of 99% | 2-3F | | | |
| 2-3 | Fly Ash/Recycled Fly Ash Vacuum System | | Filter: In line cartridge filter with a control efficiency of 99% | 2-3C | 2-3C | PM | 12/16/14 |
| | | | Cyclone: A-S-H Co. T-42 primary collector with a control efficiency of 85% | 2-3E | | | |

| Emission Unit ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Stack ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| | | | Bag filter: A-S-H Co. T-42 w/Micropulsair Mdl 42-8-18" Hg with a control efficiency of 99% | 2-3F | | | |
| 2-3 | Wet Unloader from Fly Ash/Recycled Fly Ash Storage Silo. | | Pugmill: A-S-H C-40 pugmill with a control efficiency of 85% | 2-3D | 2-3D | PM | 12/16/14 |
| | Recycled Fly Ash Truck Unloading | | Water Spray System | - | Fugitive | PM | 2/28/07 |
| **Lime Silo for Boiler Units 1 & 2** | | | | | | | |
| LS-1 (Unit 1-5) | Lime Silo | 15,000 cu.ft. | Bin Vent Filter (= pulse-jet fabric baghouse.) | LS-1 (EP 1-5 & CD 1-5) | LS-1 (EP 1-5 & CD 1-5) | PM | 2/28/07 |
| **Emergency Diesel Fire Pump** | | | | | | | |
| FP | Emergency diesel fire pump (Construction date: 1986) | 340 BHP | None | - | Insig-5 | - | - |
| **Parts Cleaner** | | | | | | | |
| SK | Parts Cleaner | 35 gallons | _ | - | Fugitive | - | - |

*: The size/rated capacity is provided for informational purposes only, and is not an applicable requirement.
[1]: Control devices are not required when solely firing natural gas.

**EMISSIONS INVENTORY**

The 2013 annual emissions (as reported in Virginia's Comprehensive Environmental Data System (CEDS)) are summarized in the following tables:

2013 Actual Emissions

| | 2013 Facility Wide Criteria Pollutant Emission in Tons/Year | | | | |
|---|---|---|---|---|---|
| VOC | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $NO_x$ |
| 3.250 | 651.024 | 1,592.400 | 35.001 | 17.143 | 825.512 |

2013 Facility Hazardous Air Pollutant Emissions

| Pollutant | 2013 Hazardous Air Pollutant Emission in Tons/Yr |
|---|---|
| 1,3 Butadiene | 0.000 |
| 2,4-Dinitrotoluene | 0.000 |
| 2-Chloroacetophenone | 0.000 |
| Acetaldehyde | 0.017 |
| Acetophenone | 0.003 |
| Acrolein | 0.009 |
| Ammonia | 0.045 |
| Antimony Compounds | 0.000 |
| Arsenic Compounds | 0.002 |
| Benzene | 0.002 |
| Benzyl Chloride | 0.021 |
| Beryllium Compounds | 0.000 |
| Biphenyl | 0.000 |
| Bis (2-ethylhexyl) phthalate (DEHP) | 0.002 |
| Bromoform | 0.001 |
| Cadmium Compounds | 0.000 |
| Carbon Disulfide | 0.032 |
| Chlorine | 0.000 |

| Pollutant | 2013 Hazardous Air Pollutant Emission in Tons/Yr |
|---|---|
| Chlorobenzene | 0.000 |
| Chloroform | 0.004 |
| Chromium Compounds | 0.003 |
| Cobalt | 0.000 |
| Cumene | 0.000 |
| Cyanide Compounds | 0.068 |
| Dimethyl Sulfate | 0.001 |
| Ethyl Chloride (Chloroethane) | 0.001 |
| Ethylbenzene | 0.000 |
| Ethylene Dibromide (Dibromoethane) | 0.000 |
| Ethylene Dichloride (1,2-Dichloroethane) | 0.001 |
| Formaldehyde | 0.006 |
| Hexane | 0.002 |
| HCl | 3.960 |
| Hydrogen Fluoride (hydrofluoric acid) | 0.350 |
| Isophorone | 0.018 |
| Lead | 0.003 |
| Manganese | 0.006 |
| Mercury Compounds | 0.047 |
| Methyl Bromide (Bromomethane) | 0.005 |
| Methyl Chloride (Chloromethane) | 0.035 |
| Methyl Chloroform (1,1,1-Trichloroethane) | 0.001 |
| MTBE | 0.001 |
| Methylene Chloride Dichloromethane | 0.909 |
| Methyl ethyl ketone (2-Butanone) | 0.005 |

| Pollutant | 2013 Hazardous Air Pollutant Emission in Tons/Yr |
|---|---|
| **Methylhydrazine** | 0.005 |
| **Methylmethacrylate** | 0.001 |
| **Naphthalene** | 0.000 |
| **Nickel** | 0.003 |
| **Phenol** | 0.003 |
| **Phosphorus** | 0.001 |
| **Propionaldehyde** | 0.012 |
| **Selenium** | 0.040 |
| **Styrene** | 0.001 |
| **Sulfuric Acid Mist** | 3.160 |
| **Tetrachloroethylene (Perchloroethylene)** | 0.001 |
| **Toluene** | 0.002 |
| **Vinyl acetate** | 0.000 |
| **Xylenes** | 0.000 |

**Greenhouse Gas Emissions (GHGs)**
**Total Facility GHG Emissions Potential to Emit ($CO_2e^*$): 1.09 x $10^6$ Tons per Yr**
**(Basis Permit Application for Modification to the Title V Permit)**
*: $CO_2e$ stands for $CO_2$ equivalent

**EMISSION UNIT APPLICABLE REQUIREMENTS -**

**Limitations**

**Best Available Control Technology (BACT) requirements** –
The following limitations are from the underlying permits which were cited as BACT requirements ***(except for where noted otherwise)***. They require certain types of control that are considered the best available for the particular pollutant needing to be controlled. These may include other control related requirements such as types of approved fuels to be combusted along with operating limitations such as the amount of fuel to be consumed during a consecutive 12 month period and the resulting emission limitations based on the required control(s):

*Six Foster Wheeler Stoker Boilers (Emission Units 1A, 1B, 1C, 2A, 2B and 2C):*
Condition III.A.1. of Title V (T5) permit from Condition 2 of the December 16, 2014 PSD permit
Condition III.A.2. of T5 permit from Condition 8 of the December 16, 2014 PSD permit
Condition III.A.3. of T5 permit from Condition 9 of the December 16, 2014 PSD permit

Condition III.A.4*. of T5 permit from Condition 11 of the December 16, 2014 PSD permit
*: A general PSD citation was cited in the underlying PSD permit. This condition originally may have been due to BACT based on a support document to the PSD permit.
Condition III.A.5. of T5 permit from Condition 10 of the December 16, 2014 PSD permit
Condition III.A.6. of T5 permit from Condition 13 of the December 16, 2014 PSD permit
Condition III.A.11. of T5 permit from Condition 12 of the December 16, 2014 PSD permit

**New Source Performance Standards (NSPS)**
**40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units Conditions -**
In addition to the limitations from the underlying PSD permit dated December 16, 2014, the facility must also comply with standards found in ***40 CFR 60 Subpart Db***. The following list highlights the applicable requirements from Db of which are included in the Title V permit:

60.43b(f) ...shall cause to be discharged into the atmosphere any gases that exhibit greater than 20% opacity (6 minute average) except for one 6 minute period per hour of not more than 27% opacity. Condition III.A.10 – No underlying permit condition.

60.43b(g) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown, or malfunction. Condition III.A.10 – No underlying permit condtion.

60.44b(a)(3)(ii) (a)... shall cause to be discharged into the atmosphere from that affected facility any gases that contain $NO_X$ in excess of the following limits:

(3) Coal:

(ii) Spreader stoker and fluidized bed combustion 0.6 lbs/MMBtu.

*(The $NO_X$ limitation listed above is the same as the PSD limitation (*Condition III.A.6 (Condition 13. of the December 16, 2014 PSD permit.) *that was considered as BACT. The NSPS Db citation was therefore included under the emission limitation condition in the Title V.) Note: the boilers have enhanced overfired air in place which reduces $NO_x$ emissions. The enhanced overfired air is an inherent part of the boiler(s).*

60.44b(b) (b)... that simultaneously combusts mixtures of only coal,..., or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain $NO_X$ in excess of a limit determined by the use of the following formula: Condition III.A.7 – no underlying permit condition.

60.44b(h) $NO_X$ standards under this section apply at all times including periods of startup, shutdown, or malfunction. Condition III.A.8. – no underlying permit condition.

60.44b(i) ...compliance with the emission limits under this section is determined on a 30 day rolling average basis. Condition III.A.9. – no underlying permit condition.

60.46b(a) The particulate matter emission standards and opacity limits under 40 CFR 60.43b apply at all times except during periods of startup, shutdown, or malfunction. The $NO_X$ standards under 40 CFR 60.44b apply at all times. Condition III.A.8. – no underlying permit condition.

60.49b(h)(3) Excess emissions of opacity are defined as all 6 minute periods during which the average opacity exceeds the standard. Condition III.A.10. – no underlying permit condition.

60.49b(h)(4) $NO_X$ excess emissions are defined as any calculated 30 day rolling average $NO_X$ emission rate which exceeds the standard. Condition III.A.9. – no underlying permit condition.

*Boiler (or Bottom) Ash System (for Emission Units 1 & 2 – Vacuum Pumps (Vacuum System) and Bottom Ash Collection Silo with Unloaders (Emission Unit 1-4), and Lime Silo for Boiler Units 1 & 2 (Emission Unit LS-1 (Emission Unit 1-5)):*
Condition V.A.8. of T5 permit from Condition 2 of the February 28, 2007 minor NSR permit
Condition V.A.9. of T5 permit from Condition 3 of the February 28, 2007 minor NSR permit
Condition V.A.6. of T5 permit from Condition 10 of the February 28, 2007 minor NSR permit
Condition V.A.12. of T5 permit from Condition 7* of the February 28, 2007 minor NSR permit
**(Throughput limitation is not listed as BACT.)*

*Unit 1's fly ash/recycled fly ash storage silo and vacuum system along with recycled fly ash truck unloading (Emission Unit 1-3) and Unit 2's fly ash/recycled fly ash storage silo and vacuum system along with wet unloader from fly ash/recycled fly ash storage silo and recycled fly ash truck unloading (Emission Unit 2-3):*
Condition V.A.2. of T5 permit from Condition 4 of the December 16, 2014 PSD permit
Condition V.A.3. of T5 permit from Condition 5 of the December 16, 2014 PSD permit
Condition V.A.6. of T5 permit from Condition 10 of the February 28, 2007 minor NSR permit and 9 VAC 5-50-80*.
**: Emission Units 1-3 and 2-3 that do not have applicable requirements under the February 28, 2007 minor NSR permit still apply to this Title V permit condition on the basis of Virginia's Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 5-1), 9 VAC 5-50-80 Standard for visible emissions.*
Condition V.A.10. of T5 permit from Condition 4 of the February 28, 2007 minor NSR permit
Condition V.A.16. of T5 permit from Condition 15 of the December 16, 2014 PSD permit

*Boiler coal storage bunkers (Emission Units 1-2A, 1-2B, 1-2C, 2-2A, 2-2B, and 2-2C):*
Condition V.A.4. of T5 permit from Condition 6 of the December 16, 2014 PSD permit
Condition V.A.15. of T5 permit from Condition 14 of the December 16, 2014 PSD permit
***NSPS Y Limitation*** -**
Condition V.A.7.** of T5 permit from NSPS Y applicable requirements

*Coal unloading and stock out: unloading hopper, covered conveyor, stock out tube (Emission Units FS-3):*
Condition V.A.1. of T5 permit from Condition 3 of the December 16, 2014 PSD permit
Condition V.A.5. of T5 permit from Condition 7 of the December 16, 2014 PSD permit
Condition V.A.17. of T5 permit from Condition 16 of the December 16, 2014 PSD permit
***NSPS Y Limitation*** -**
Condition V.A.7.** of T5 permit from NSPS Y applicable requirements

*Coal screening/classifier/crusher system (Emission Unit FS-4):*
Condition V.A.7. of T5 permit from Condition 11 of the February 28, 2007 minor NSR permit
Condition V.A.11. of T5 permit from Condition 6 of the February 28, 2007 minor NSR permit
Condition V.A.13. of T5 permit from Condition 8* of the February 28, 2007 minor NSR permit
**(Throughput limitation is not listed as BACT.)*

****40 CFR 60 Subpart Y – Standards of Performance for Coal Preparation and Processing Plants Conditions –**

40 CFR 60.250 - Applicability and designation of affected facility:
The applicability under 40 CFR 60.250(a) is met based on processing more than 200 tons of coal per day and 40 CFR 60.250(b) is met as commenced construction was after October 27, 1974 and on or before April 28, 2008 which includes coal storage systems (such as the coal storage bunkers).
40 CFR 60.254 - Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles.
40 CFR 60.254(a) ..., an owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater.

**Monitoring**

***Compliance Assurance Monitoring (CAM):***
Conditions III. B.2-5, 8, 12, 13 and 14 of the Title V permit were required in the prior Title V permit to implement the ***approved*** *Compliance Assurance Monitoring (CAM) Plan* for ($PM_{10}$) per 40 CFR 64 for the Foster Wheeler boilers (Emission Units 1A, 1B, 1C, 2A, 2B, and 2C).

A CAM Plan was not needed from the facility for $NO_X$ since the facility is exempt by 40 CFR 64.2 (b)(1)(vi) which states, "The requirements of this part shall not apply to any of the following emission limitations or standards...Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in (40 CFR) §64.1." The previous Title V permit already required the facility to have $NO_X$ CEMs to monitor $NO_X$ emissions from NSPS.

The facility has flue gas desulfurization (FGD) on the boilers for $SO_2$ control and installed a lime silo with a vent filter for particulate control. Units which have a continuous compliance determination method are not required to comply with CAM based on 40 CFR 64.2(b)(1)(vi). The boiler $SO_2$ emissions are monitored by CEMS and therefore, CAM does not apply. The lime silo potential pre-control device emissions for particulate are less than one (1) tpy, much less than 100 percent of the amount (tpy) to classify the silo as a major source. Therefore, a CAM plan is not required for the lime silo per 40 CFR 64.2(a)(3). No changes have been made to the facility that requires a CAM applicability analysis.

***NSPS Db Monitoring from Underlying Permit:***
*Monitoring requirements per 40 CFR 60 Subpart Db - New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units*

The following summarizes Conditions III. B.1, 2, and 4 of the Title V permit from Conditions 18, 20 and 21 from December 16, 2014 PSD permit which addresses NSPS Db monitoring requirements:

18. Requires $NO_X$ CEMS.
    (9 VAC 5-50-40 and 40 CFR 60 Subpart Db)

20. Requires Opacity COMs.
    (9 VAC 5-50-40 and 40 CFR 60 Subpart Db)

21. QA/QC monitors in accordance with 40 CFR 60 Appendix B and Appendix F.
    (9 VAC 5-50-40)

***NSPS Db Monitoring Included in the Title V Permit Through Periodic Monitoring:***
The following clarifies the extent of monitoring required by 40 CFR 60 - NSPS Db:

| | |
|---|---|
| 60.41b Steam generating unit operating day: | means a 24 hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24 hour period. |

*(The following goes into further detail of what is required in NSPS Db for monitoring along with the associated general monitoring requirements in 40 CFR 60.13.)*

| | |
|---|---|
| 60.46b(e)(2) | ...shall determine compliance with the $NO_X$ standards on a continuous basis through the use of a 30 day rolling average emission rate. A new 30 day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days. |
| 60.48b(a) | ...shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. |
| 60.48b(b)(1) | ...shall install calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emission discharged to the atmosphere. |
| 60.48b(c) | ...(the $NO_X$ monitor) shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. |
| 60.48b(d) | The 1 hour average $NO_X$ rates measured by the $NO_X$ monitor and required under 40 CFR 60.13 (h) shall be expressed in lbs/million Btu heat input and shall be used to calculate the average emission rates. The 1 hour averages shall be calculated using the data points required under 40 CFR 60.13 (b). At least 2 data points must be used to calculate each 1 hour average. |
| 60.48b(e) | The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. |
| 60.48b(e)(1) | The span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent. |
| 60.48b(e)(2) | The span value for nitrogen oxides is 1000 for coal and 500(x+y)+1000(z) for mixtures where<br>x is the fraction of total heat input derived from natural gas<br>y is the fraction of total heat input derived from oil, and (***Note: Oil is not combusted and is not one of the approved fuels so this fuel would not apply.***)<br>z is the fraction of total heat input derived from coal |

*(The fuel mixture formula requirement (listed above) applies to Emission Units 1A, 1B and/or 1C due to natural gas and coal can be burned simultaneously. For the Title V permit, the span value for $NO_X$ monitoring systems shall be calculated as stated in 40 CFR 60.48b(e) (above) or adjusted as required by 40 CFR 75, Appendix A, Sections 2.1.2.1 and 2.1.2.3, whichever value is lower (Condition III.B.8). This wording was changed from the original in prior permitting to allow the facility to continue operating the $NO_X$ monitoring system in accordance with 40 CFR 75, to satisfy the NSPS Subpart Db $NO_X$ monitoring requirements, and to remove any uncertainty from the demonstration of compliance with both sets of regulations. A memo from EPA dated February 17, 2000, regarding "Alternative Monitoring for Cogeneration Facility" stated that "because low $NO_X$ concentration is expected in the stack, a lower span value will be acceptable.")*

60.48b(e)(3) All span values computed for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm.

60.48b(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7a, or other approved reference methods to provide emission data for a minimum of 75% of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

***General NSPS Monitoring:***
The Following Summarized General Monitoring Requirements Are From 40 CFR 60.13, "Monitoring Requirements" of Which Was Included in the Title V Permit Through Periodic Monitoring:

60.13(a) ...all continuous monitoring systems required under applicable subparts shall be subject to the provision of this section upon promulgation of performance specifications for continuous monitoring systems under Appendix B to this part and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, Appendix F to this part.

60.13(d)(1) Owners and operators of all continuous emission monitoring systems ... shall check the zero (or low level value between 0 and 20% of span value) and span (50 to 100% of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24 hour zero drift or 24 hour span drift exceeds two times the limits of the applicable performance specification in Appendix B. The system must allow the amount of excess zero and span drift measured at the 24 hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emission, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 % opacity.

60.13(d)(2) For opacity measurements, minimum procedures shall include a method for producing a simulated zero opacity condition and upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

60.13(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required above, all CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) For opacity, shall complete a minimum of once cycle of sampling and analyzing for each successive 10 second period and one cycle of data recording for each successive 6 minute period.
(2) All continuous monitoring systems except opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.

60.13(f) Devices to be installed to get representative measurements of emissions. Must use procedures for location of systems in the applicable PS of Appendix B.

60.13(h) For COMS, must reduce all data to 6 minute averages and for CEMS to 1 hour averages. 6 minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6 minute period. For CEMS, 1 hour averages shall be computed from 4 or more data points equally spaced over each 1 hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. ...

*(The portion of this requirement requiring 4 data points for each hour is overridden by the requirement for only 2 data points for each hour in NSPS Db, 40 CFR 60.48b(d).)*

***Remaining Periodic Monitoring Requirements for the Large Emitting Units (the six boilers – Units 1A, 1B, 1C, 2A, 2B, and 2C) of Which Was Included in the Title V Permit Through Periodic Monitoring:***

The facility will use the pressure drop across each of the baghouses for parametric monitoring of particulate matter emissions. The acceptable pressure drop may not exceed 10 inches water column. Pressure drops exceeding 10 inches water column will be considered indications that the facility may be out of compliance. A lower limit to the pressure drop was not included in the permit since the boilers can operate at low load that produces a small pressure drop across the baghouse. Should a failure or malfunction occur that causes a low pressure drop across the baghouse, the opacity monitoring system would show a violation. The pressure drop will be measured and recorded once every twelve hours. The permit lays out the steps for determining if the deviation from the acceptable limit listed in the permit is a violation of the emission limit.

The $SO_2$ emission limitations are monitored directly by a CEMS. This is the reason testing for this pollutant was not required once per the five year term of the Title V permit. In addition $SO_2$ is monitored through record keeping of sulfur content in the fuel. This is also an acceptable method for periodic monitoring of the $SO_2$ standards. The VOC and CO emissions from these boilers are not measured directly. Periodic monitoring for these limitations will be the requirement for use of good operational practices and good maintenance practices, as well as the requirement to keep maintenance records.

Additionally, the facility is presently required in their current Title V permit to test for $PM_{10}$, VOC, and CO once per permit term for periodic monitoring purposes. This frequency of testing was previously chosen for the initial Title V permit based on the information in previous tests that showed the boilers operated well below their standards.

***Remaining Monitoring Requirements for the Smaller Emitting Units Coal Bunkers, Ash Systems, the Coal Unloading and Stock Out Area) of Which Was Included in the Title V Permit Through Periodic Monitoring:***

The facility also has many small emissions units: the coal fuel bunkers (Emission Units 1-2A through 2-2C), the ash systems (Emission Units 1-3 and 2-3), and the coal unloading and stock out area (Emission Unit FS-3). Each of these emissions units is subject to particulate limits and has control requirements. The control requirements consist of particulate filters, cyclones, a pugmill, and the use of wet suppression. The facility will be required to perform a visible emissions observation each month for a brief period of time to determine if normal visible emissions are present (Condition V.B.1. and 2.) or any visible emissions are present (Condition V.B.3.). If above normal emissions are present (Condition V.B.1. and 2.) or any visible emissions are present (Condition V.B.3.), the facility will be required to perform maintenance. If maintenance does not alleviate the visible emissions, the permittee will be required to perform a Method 9 to determine compliance with the opacity limits. No testing for particulate is deemed necessary for periodic monitoring because of the small size of these emission points. Each emission's source is permitted for well below one ton of particulate a year, and therefore the expense of particulate testing would not be appropriate.

For the associated control equipment particulate filters and cyclones, periodic monitoring will also consist of requiring good maintenance practices, and record keeping requirements to document maintenance. For the pugmill and the wet suppression, consistent use of these work practices will constitute periodic monitoring since use of the pugmill and use of the binders ensure the emissions units meet their standards.

The facility will be required to keep records of times when these work practices were not used, of maintenance on the control equipment, as well records of the monthly visible emission observances and any Method 9 visible emission evaluations (VEEs).

The facility will be required to keep records of the equations used and the pollutant specific emission factors used to calculate these hourly and annual emissions. These limitations will be part of the monitoring and record keeping sections of the Title V permit.

***NSPS Y Monitoring Included in the Title V Permit Through Periodic Monitoring:***

40 CFR 60.256 – Continuous monitoring requirements

The applicable requirements for continuous monitoring under NSPS Y did not apply. There is periodic monitoring in place in the Title V permit to ensure the opacity standard for NSPS Y is being met.

**Record keeping**

***The Following Recordkeeping Requirements Are from the PSD Permit Issued December 16, 2014:***

Condition III.C.1. of Title V Permit:

11. Requires recordkeeping of all coal shipments purchased, indicating sulfur and ash content per shipment.

Condition III.C.2. of Title V Permit:

17. Requires record keeping of fuel throughput, ash and sulfur content fuel certification records, operation and control device monitoring records for the baghouses, scheduled and unscheduled maintenance records, operator training, results of stack test, visible emission evaluations, and performance evaluations.
    (9 VAC 5-50-50)

***The Following Recordkeeping Requirements Stem From 40 CFR 60, Subpart Db of Which Was Included in the Title V Permit Through Periodic Monitoring***:

60.49b(d) Shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal and natural gas each calendar quarter. The annual capacity factor is determined on a 12 month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

60.49b(f) Shall maintain records of opacity.

60.49b(g) Shall maintain records of the following information for each steam generating unit operating day:

1. Calendar date
2. Average hourly nitrogen oxides emission rates in lbs/million Btu measured
3. 30 day average nitrogen oxides emission rates in lbs/million Btu calculated at the end of each steam generating unit operating day from the measured hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.
4. ID of days when the calculated 30 day average of $NO_X$ are in excess of the standard, with reasons for each excess emissions as well as a description of corrective actions taken.
5. ID of days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.
6. ID of times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
7. ID of F factor used for calculations, method of determination, and type of fuel combusted.
8. ID of times when pollutant concentration exceeded full span of the continuous monitoring system.
9. Description of modifications to CEMS that could affect the ability of the CEMS to comply with PS 2 or 3.
10. Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1.

60.49b(o) All records shall be maintained by owner for period for 2 years following the date of such record.

*For consistency with the Title V requirements, the permittee will be streamlined to 5 years of records.)*

***The Following Recordkeeping Requirements Are from the February 28, 2007 Permit***:

Condition V.B.7. of the Title V Permit:

14. Requires annual throughput of coal ash from the boiler ash system (Emission Unit 1-4), coal from the screener, classifier, crusher system (Emission Unit FS-4), and operation and control device monitoring for the baghouses by monitoring visible emissions.

In addition to the record keeping requirements from the two underlying permits (December 16, 2014 PSD permit and the February 28, 2007 permit) and from NSPS Db added through periodic monitoring (which includes recordkeeping), additional records will be kept for the additional periodic monitoring* of measuring the pressure drop once every twelve hours across each of the 6 baghouses.
*: (The additional periodic monitoring helps to ensure compliance with the particulate matter standard from each boiler.)

If the pressure drop deviates from the range listed in the permit, the facility will be required to keep records of actions taken. Also, the facility will be required to keep records of maintenance performed on each of the cyclones and baghouses associated with equipment other than boilers as well as the pollutant specific emission factors and equations used to calculate emissions from the boilers. The facility will be required to keep records of times when the pugmill was not in use or malfunctioned during ash loading operations and of times when wet suppression was not used on the coal piles. The facility will be required to perform and keep records of monthly observations on all particulate sources other than the boilers to determine if there is an opacity problem. The facility will also be required to perform and record observations on the ash loader when the pugmills are not operating to ensure that the opacity standard is met. The facility will be required to keep on hand the test data from stack tests required by this permit showing compliance with the short term criteria pollutant standards with the exception of $NO_X$ and $SO_2$ listed in Condition III. A.6 of the Title V permit of Condition 13 from the December 16, 2014 PSD permit. All the record keeping requirements described in this paragraph are for the purpose of ensuring adequate periodic monitoring.

**Testing**

***Testing from Underlying Permits:***
The following testing requirements are from the December 16, 2014 permit and February 28, 2007 permit (condition nos. are assigned respectively for the listed permits).

Condition VIII.D.1. and Condition V.C.1. of Title V Permit (respectively):
Condition 23 from December 16, 2014 permit and Condition 15 from February 28, 2007 permit.

Provision for test ports.
(9 VAC 5-50-30F)

***Testing from NSPS Db:***
The following requirements stem from 40 CFR 60 Subpart Db:

60.46b(d)(2)(i) To determine compliance with the particulate matter emission limits, Method 5 shall be used.

60.46b(d)(7) Method 9 is used for determining the opacity of stack emissions.

60.46b(e)(2) ...shall determine compliance with the nitrogen oxides emission standards on a continuous basis through the use of a 30 day rolling average emission rate. A new 30 day rolling average emission rate is calculated each steam generating unit operating day as the average of all the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

***Additional Testing Required for Additional Periodic Monitoring:***
The Title V permit also contains a requirement for testing $PM_{10}$, CO, and VOC emissions once per permit term. This is Condition III.D. 1, it was added at the request of EPA in the initial Title V issuance.

**Reporting**

***The Following Reporting Requirements Are Derived from Condition 22 of the PSD Permit Issued December 16, 2014***:

Condition III.E.2. of the Title V Permit
22. Quarterly COMS/CEMS reports.
(9 VAC 5-50-50)

***Reporting from NSPS Db:***
The following reporting requirements are from 40 CFR 60 Subpart Db:

60.49(h) Must submit excess emission reports of opacity for any calendar quarter during which there are excess emissions from the affected facility. If there are no excess emissions during the calendar quarter, shall submit a report semiannually stating no excess emissions occurred.

60.49b(h)(4)(i) Shall submit a ***quarterly report for $NO_X$*** containing information in 49b(g). All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

60.49b(v) May submit ***electronic quarterly reports for $NO_X$ and opacity*** in lieu of submitting written reports. The format of each quarterly electronic report shall be coordinated with the Administrator. The electronic reports shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement, indicating whether compliance with the applicable emission standard and minimum data requirements were achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the Administrator to obtain their agreement to submit reports in this alternative format

***Semi-Annual Compliance Reporting (General Conditions) Based on the Title V Permitting Regulations for Acid Rain Sources:***
The Title V permit for Acid Rain Sources will also contain reporting requirements stemming from 9 VAC 5-80-490 F.2.a.:

> ...the permit shall contain terms and conditions setting out all applicable reporting requirements and requiring the following:
>
> (a) Submittal of reports of any required monitoring at least every six months. All instances of deviations from permit requirements must be clearly identified in such reports. All reports must be certified by a responsible official consistent with 9 VAC 5-80-430 G.

These requirements will be the reporting of instances where pressure drop across the baghouse was not in the acceptable range, corresponding actions taken, instances where the pugmill was malfunctioning or where dust suppression was not adequate in coal handling operations, instances where the sulfur and ash content of the coal exceeded the allowable limits, results of the once per permit term stack testing, results of all monthly observations, and results of all observations of the ash loaders when the pugmills are not used. The permittee previously requested that the semiannual reporting requirements be changed to quarterly to better coincide with other quarterly reporting requirements, mainly from NSPS.

*(Note: In regards to NSPS Db:*
*The provision in General Condition, XII.C.3 (in the Acid Rain TV permit boilerplate) requires semiannual reporting no later than March 1 and September 1 of each calendar year. The specific conditions in the permit under "Reporting" require semiannual reporting at a minimum, and in most cases quarterly reporting. The General Condition XII.C.3 has been changed slightly (This change was performed for the current active Title V permit.) to ensure that the permit does not require both semiannual and quarterly reporting of the same data. The dates have been removed, and the phrase "at a minimum" has been added to provide consistency with the regulatory requirement found in 9 VAC 5-80-490 F.)*

**Maximum Available Control Technology (MACT):**
(This facility is considered an area source for HAPS. A facility wide HAPS emission limit has been implemented in this Title V permit to ensure this is the case by practically and federally enforceable requirements.)

**40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines Conditions:**

40 CFR 63.6602 (Table 2c – Emission limitations for an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions:

40 CFR 63.6605 – General Compliance Requirements:

40 CFR 63.6625(e), (f), (h), and (i) – Monitoring, Installation, Collection, Operation, and Maintenance Requirements:

**40 CFR 63 Subpart JJJJJJ – National Emissions Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters:**
The boilers (emission units 1A, 1B, 1C, 2A, 2B, and 2C) meet the applicability which includes being located at an area source of HAPs. The applicable requirements (limitations, general compliance requirements, initial compliance requirements, testing, continuous compliance requirements, monitoring and recordkeeping) are clearly outlined in this permit in detail. Refer to permit for specifics.

**Streamlined Requirements**
The following conditions from the June 28, 2007 and December 16, 2014 permits have not been included in the TV permit (for Acid Rain Sources) along with the rationale:

- Inspection and entry condition – the same requirements are included in the Title V permit (for Acid Rain Sources) general conditions which are as stringent along with it being redundant. The requirements have been overtaken in the Title V (Part 70) regulations.
- Malfunction reporting condition – the same requirements are part of the Title V permit (for Acid Rain Sources) general conditions. As indicated prior, which are as stringent along with it would be redundant.
- Suspension or revocation of an NSR permit condition – the same requirements are part of the Title V permit
- Transfer of ownership condition relative to the Title V permit (for Acid Rain Sources) – the transfer requirements are included in the Title V permit (for Acid Rain Sources) general conditions which are as stringent along with make it redundant.
- Rule 4-8 – Rule 4-8 is not included as NSPS Db is more stringent than Rule 4-8.
- Records of 2 years have been streamlined to the more stringent of 5 year requirements as required under the Title V program.

In general certain conditions within existing NSR permits may be applicable to all newly constructed or modified equipment that receive a permit such as the condition for maintenance/operating procedures.

In addition, the following conditions:

- "Registration/update" condition
- "Permit copy" condition
- "Violation of ambient air quality standard" condition

Will not be included in the Title V permit because they contain no specific requirements, are environmentally insignificant or made redundant.

**GENERAL CONDITIONS**:
The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-490 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

**Comments on General Conditions**

**Permit Expiration**
This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and § 10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cite(s) the Article(s) that follow(s):
Article 3 (9 VAC 5-80-360 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow
9 VAC 5-80-430. Application
9 VAC 5-80-500. Permit Shield
9 VAC 5-80-510. Action on Permit Applications

**Failure/Malfunction Reporting**
Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-650 of Virginia's Federal Operating Permits Regulations for Acid Rain Sources also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-650 is from Virginia's Title V regulations for Acid Rain Sources. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-650. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-40-50. Notification, Records and Reporting
9 VAC 5-50-50. Notification, Records and Reporting

**Permit Modification**
This general condition cites the sections that follow:
9 VAC 5-80-50. Applicability, Federal Operating Permit for Stationary Sources
9 VAC 5-80-550. Changes to Permits
9 VAC 5-80-660. Enforcement
9 VAC 5-80-1100. Applicability, Permits for New and Modified Stationary Sources
9 VAC 5-80-1605. Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

**Malfunction as an Affirmative Defense**
The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-650 and 9 VAC 5-20-180. The malfunction requirements are listed in general condition "Malfunction as an Affirmative Defense" and general condition "Failure/Malfunction Reporting". For further explanation see the comments on general condition "Failure/Malfunction Reporting".

This general condition cites the sections that follow:
9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-490. Permit Content

**Asbestos Requirements**
The Virginia Department of Labor Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:
9 VAC 5-60-70. Designated Emission Standards
9 VAC 5-80-490. Permit Content

The following requirements from Subpart Db are inapplicable and were not included in the TV permit for the following reasons:

60.46b(e)(1) Initial compliance test requirements.

*(This requirement will not be included in the permit since the initial compliance test has already been conducted in accordance with this requirement and demonstrated the facility met the standard.)*

60.49b(a)(1) Initial notification including design heat input capacity, identification of fuels combusted.

60.49b(a)(3) Annual capacity factor.

60.49b(b) Submittal of initial performance test data and performance evaluations of the CEMS.

*(These 3 requirements listed above will not be included since these notifications and test data have been sent in and approved.)*

60.43b Standard for particulate matter (PM).

Background:
NSPS Subpart Db provides standards of performance for steam generating units that commence construction, modification, or reconstruction after June 19, 1984 with a heat input capacity greater than 100 MMBtu/hr. Boilers (Emission Units 1A, 1B, and 1C) are coal and natural gas dual-fuel steam generating units with a heat input capacity greater than 100 MMBtu/hr. The boilers were originally constructed after June 18, 1984, but on or before June 19, 1986. A modification after February 28, 2005 triggered applicability of the 0.030 lb/MMBtu PM emission standard. The PM emission standard was also considered BACT in the PSD permit.

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-490, that apply to all Federal operating permit sources. These include requirements for submitting quarterly monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

**STATE ONLY APPLICABLE REQUIREMENTS:**
The following Virginia Administrative Codes have specific requirements only enforceable by the State such as the following (No state only applicable requirements apply to this facility).

9 VAC 5-50-310, Odorous Emissions
9 VAC 5-50-320, Toxic Pollutants

**FUTURE APPLICABLE REQUIREMENTS:**
No future applicable requirements have been identified for this source unless EPA in the future makes a determination the Utility MACT applies rather than the Boiler MACT. The Clean Air Interstate Rule (CAIR) presently applies to this source; however, it may be taken over or replaced by the Cross State Air Pollution Rule (CSAPR) in the future.

**INAPPLICABLE REQUIREMENTS:**
1. The facility is not subject to the $SO_2$ requirements of Db because the construction of the facility commenced after June 19, 1984 but before June 19, 1986. The following citations demonstrate this exemption:

60.40b(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984 and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 100 MMBtu/hour.

60.40b(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification or reconstruction after **June 19, 1984 but on or before June 19, 1986**, is subject to the following standards:

(1) Coal fired affected facilities having a heat input capacity between 100 and 250 MMBtu/hour inclusive, are subject to the **particulate matter and nitrogen oxides** standards under this subpart.

Therefore, the facility is not subject to the $SO_2$ requirements for this subpart. The $SO_2$ requirements in the PSD permit are derived solely from BACT and NAAQS considerations.

2. *Greenhouse Gases (GHGs)* – There are no applicable greenhouse gases (GHGs) permitting requirements.

**COMPLIANCE PLAN**
No enforcement compliance plan was required for this source.

**INSIGNIFICANT EMISSION UNITS**
The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, record keeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-490.

Insignificant emission units include the following:

| Emission Unit No. | Emission Unit Description | Citation[1] (9 VAC_) | Pollutant Emitted (9 VAC 5-80-720 B.) | Rated Capacity (9 VAC 5-80-720 C.) |
|---|---|---|---|---|
| 1-4 | Turbine lube oil tank vent | Emissions level 9 VAC 5-80-720 B | VOC | n/a |
| 2-4 | Turbine lube oil tank vent | Emissions level 9 VAC 5-80-720 B | VOC | n/a |
| 1-5 | Cooling tower (no chromium-based water treatment chemicals used) | Emissions level 9 VAC 5-80-720 B | PM | n/a |
| 2-5 | Cooling tower (no chromium-based water treatment chemicals used) | Emissions level 9 VAC 5-80-720 B | PM | n/a |
| 6 | Diesel fuel storage tank | Emissions level 9 VAC 5-80-720 B | VOC | 1,000 gal capacity |

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Required to be Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

**OPT-IN ACID RAIN PROGRAM**

Statement of Basis:

(9 VAC 5-140-60 F.1) Statutory and Regulatory Authorities: In accordance with the Air Pollution Control Law of Virginia §10.1-1308 and §10.1-1322, the Environmental Protection Agency (EPA) Final Full Approval of the Operating Permits Program (Titles IV and V) published in the Federal Register December 4, 2001, Volume 66, Number 233, Rules and Regulations, Pages 62961-62967 and effective November 30, 2001, and Title 40, the Code of Federal Regulations §§72.1 through 76.16, the Commonwealth of Virginia Department of Environmental Quality issues this permit pursuant to 9 VAC 5 Chapter 80, Article 3 of the Virginia Regulations for the Control and Abatement of Air Pollution (Acid Rain Operating Permits)

$SO_2$ Allowance Allocations for affected units:

(9 VAC 5-140-60 F.2)

| | | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| BLR01A | $SO_2$ allowances, (tons) | 883 | 883 | 883 | 883 | 883 |
| BLR01B | $SO_2$ allowances, (tons) | 865 | 865 | 865 | 865 | 865 |
| BLR01C | $SO_2$ allowances, (tons) | 863 | 863 | 863 | 863 | 863 |
| BLR02A | $SO_2$ allowances, (tons) | 875 | 875 | 875 | 875 | 875 |
| BLR02B | SO2 allowances, (tons) | 858 | 858 | 858 | 858 | 858 |
| BLR02C | SO2 allowances, (tons) | 857 | 857 | 857 | 857 | 857 |

(9 VAC 5-80-490 A.4 and 40 CFR 74, Subpart C)

Requirements:

(9 VAC 5-80-430 C.5) James River Genco, LLC shall submit a complete permit application that includes all of the information required under 40 CFR §§74.19 at least 6 months, but no earlier than 18 months, prior to the date of expiration of the existing Opt-in Acid Rain permit. EPA forms shall be used.

Notes:

(9 VAC 5-80-420 C.1 and H.1 and 9 VAC 5-80-490 O)

$SO_2$ allowances may be acquired from other sources in addition to those allocated by U.S. EPA. No revision to this permit is necessary in order for the owners and operators of this unit to hold additional allowances recorded in accordance with 40 CFR Part 73. The owners and operators of this unit remain obligated to hold sufficient allowances to account for $SO_2$ emissions from this unit in accordance with 40 CFR 72.9(c)(1)

(40 CFR 74.12(c)(4)) The provision that participation of a combustion or process source in the Acid Rain Program may be terminated only in accordance with §74.18 (withdrawal), §74.46 (shutdown, reconstruction, or change in affected status), and §74.50 (deducting allowances)

Justifications:

(9 VAC 5-80-360) Initial exemption from the Acid Rain Program: This facility was initially exempt based on 40 CFR 72.6(b)(1) as applied to cogeneration units that sell below 219,000 MWe-hrs of electricity or 1/3 of their potential electrical output capacity to the grid on an annual, 3-year rolling average basis.

Opt In Acid Rain Permit Application:

(9 VAC 5-80-440 and 9 VAC 5-80-490 A.4.a and c, B, C, E, F, M, O and P)

The attached permit application is incorporated into the Opt-in Acid Rain permit by reference. The owners and operators of the source shall comply with the standard requirements and special provisions set forth in the application.

**CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

**PUBLIC PARTICIPATION**

The proposed Title V permit (for Acid Rain Sources) and the proposed significant amendment to the underlying PSD permit were placed on public notice concurrently in the *Progress-Index* on July 17, 2014. The public comment period and EPA's review were conducted from July 17, 2014 to September 2, 2014.

The only comments received were from EPA for the significant amendment to the underlying PSD permit and no comments were received for the Title V permit (for Acid Rain Sources).